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ABSTRACT

Noting that gender may be an important issue when studying relations between attachment and social functioning, four studies explored whether the relationship between children's internal working models of attachment and their general functioning was gender specific. A total of 246 children, ages 5 to 10 years, were given the Separation Anxiety Test (SAT) and various measures of intelligence and social competence, including the Peabody Picture Vocabulary Test and the Progressive Matrices. Preschool teachers and mothers rated children's prosocial orientation and social initiative. The findings indicated that there were no gender differences on any of the SAT-variables in any study. Five- to 7-year-olds scored lower on attachment and security of attachment than did older children. Internal working models of attachment were related to intelligence scores in girls but not boys. In 5- to 6-year-old boys, insecure internal working models of attachment (IWMs) were related to preschool teachers' ratings of ambivalent parent-child relations. Among girls, however, insecure IWMs were related to avoidant behavior during everyday reunions. Among 5- to 6-year-olds, only boys' IWMs were related to preschool teachers' ratings of peer competence. Among 8- to 10-year-olds, IWMs were related in different ways to self-, maternal-, and teacher-ratings of empathy and to observed social behavior for boys and girls. The SAT measures most consistently related to social competence were attachment responses for girls and self-reliance responses for boys. (KB)

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Are the Correlates of Children's Internal Working Models of Attachment Gender Specific?

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ABSTRACT

In four different studies, (in all 246 subjects), 5 to 10-year-old children were given the Separation Anxiety Test (SAT) and various measures of intelligence and social competence.

Intelligence: Internal Working Models (IWMs) of attachment were related to intelligence scores in girls but not in boys.

Relationship to parents: In 5- to 6-year-old boys insecure IWMs were related to preschool teachers' ratings of ambivalent parent-child relations. Among girls, however, insecure IWMs were related to avoidant behavior during everyday reunions.

Social functioning Among five to six-year-olds, only boys' IWMs were related to preschool teachers' ratings of peer competence. Among 8 to 10-year-olds, IWMs were related in different ways to self-, maternal- and teacher-ratings of empathy and to observed social behavior for boys and girls. For girls attachment responses, and for boys self-reliance responses on the SAT, were most consistently related to social competence.

AIMS

To explore whether the relationship between children's Internal Working Models of attachment (IWMs) and their general functioning is gender specific.

METHODS

In all 246 children, in four different studies at the Universities of Göteborg and Uppsala, Sweden, were given the Separation Anxiety Test (SAT). In addition the different studies used various measures of intelligence and social competence.

The Separation Anxiety Test (SAT) consists of six different pictures of parent-child separations. Three of these illustrate separations that are meant to be "severe", whereas the other three are considered easier to handle for the average child. According to the Seattle version of the SAT (Slough, Goyette & Greenberg, 1988), children's responses are coded on three scales: *attachment* (for the severe separations), *self-reliance* (for the easier ones) and *avoidance* (all six pictures). For this presentation an index of *security of attachment* was also calculated (attachment + self-reliance - avoidance). The theoretical assumption underlying this index is that a securely attached child should react with attachment responses to severe separations and with self-reliance to easier ones. The securely attached child should have little or no problem processing these pictures and should therefore not have high scores on avoidance on any of them.

Four different studies

In the different studies various measures of intelligence and social competence were used.

Study 1 (71 five to seven-year-old children) The Peabody Picture Vocabulary Test of verbal intelligence, and pre-school teachers' ratings of children's relationship to parents in everyday reunions (using 28 items from the Attachment Q-sort, Waters, 1987, but with a Likert-type response format). Preschool teachers also rated children's 'prosocial orientation' (PO) and self-mastery (SM) using the Preschool Behavior Q-sort (Baumrind, 1967).

Study 2 (91 eight to nine-year-old children) Maternal ratings focusing on 'Pro-social Orientation' (PO) and 'Social Initiative' (SI) (Rydell et al, 1997), and a school-based observation of social behavior (White & Watts, 1973).

Study 3 (48 nine-year-olds) Maternal ratings of PO and SI (Rydell et al, 1997), as in study 2.

Study 4 (36 nine to ten-year-old children) The Progressive Matrices (Raven, 1960) a test of general cognitive abilities, a self-report measure (Bryant, 1982) and teacher ratings (Roberts & Strayer, 1996) of empathy.

Gender and children's responses to the Separation Anxiety test (SAT)

There were no gender based differences on any of the SAT-variables in any of the studies. That is, boys and girls responses to the 6 SAT pictures were similar when coded according to the Seattle system. Five to seven-year-olds scored lower on attachment and security of attachment than older children.

	STUDY 1 5 – 7 years n = 71		STUDY 2 8-9years n = 91		STUDY 3 9-year-olds n = 48		STUDY 4 9 – 10 years n = 36	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
SAT - Attach	7.6	8.4	9.0	9.6	9.9	9.9	10.1	10.9
SAT – Self-Rel	6.6	6.9	8.7	7.7	7.1	7.1	7.9	7.4
SAT - Avoid	9.0	8.7	8.1	8.2	7.9	7.9	7.0	6.7
SAT – Sec att	5.3	6.6	9.7	9.0	9.2	9.1	10.9	11.6

RESULTS

SAT in relation to intelligence

In both of the two studies where intelligence was measured, despite the fact that we used different age groups (5 – 7 vs. 9 – 10), as well as different measures of intelligence (verbal and general), correlations with SAT-variables were stronger for girls than for boys.

Tested intelligence
[5-7-year-olds, n = 71 (42 + 29); 9-10-year-olds, n = 36 (18 + 18)]

	5-6-year-olds Verbal (PPVT)			10-year-olds General (Raven)		
	Boys	Girls	All	Boys	Girls	All
SAT - Attach	.24	.23	.24 *	-04	.49 *	.18
SAT – Self-Rel	.10	.40 *	.20	.38 +	.20	.28 +
SAT - Avoid	-.06	-.41 *	-.18	.06	-.45 *	-.16
SAT – Sec att	.16	.43 *	.25 *	.15	.46 *	.31+

SAT in relation to everyday reunion behaviors as rated by preschool teachers

Correlations between preschool teachers' ratings of 5 to 6-year old children's behavior in everyday reunions with their parents and the children's SAT-responses were different for boys and girls. Girls who were high on avoidant behavior also showed high avoidance on the SAT, and they scored low on attachment, self-reliance and security of attachment. For boys, however, significant correlations with avoidant reunion behavior were not found. Instead observed ambivalent behaviors in everyday reunions correlated with low self-reliance and low security of attachment.

Preschool teachers' ratings of everyday reunion behavior
[5-6-year-olds, n = 60 (38 + 22)]

	Avoidant behavior			Ambivalent behavior		
	Boys	Girls	All	Boys	Girls	All
SAT - Attach	.07	-.45 *	-.17	-.27 +	.29	-.07
SAT – Self-Rel	-.19	-.61 **	-.30 *	-.32 *	.15	-.17
SAT - Avoid	.17	.65 ***	.33 *	.24	-.13	.09
SAT – Sec att	-.06	-.64***	-.31 *	-.32 *	.21	-.12

SAT in relation to social functioning

5 to 6-year-olds. For boys, preschool teachers ratings of 'self-mastery' **(defined as their ability to self-regulate emotionally and to control their own bodies in physically challenging situations)** correlated with attachment **(.33)** as well as security of attachment **(.26)** responses on the SAT. For girls no significant relations were found between SAT-responses and preschool teachers' ratings on the Preschool Behavior Q-sort.

8 to 9-year-olds. In study 3, teacher and maternal ratings of social competence (pro-social orientation + social initiative) were combined with observations of children's behavior in the school environment by independent observers. Maternal ratings were unrelated to SAT-responses for both sexes. Teacher ratings of children's social initiative were, however, related to SAT-responses of for both boys and girls.

Teacher ratings of pro social orientation and social initiative
[8-9-year-olds, n = 91 (46 + 45)]

	Pro social orientation			Social initiative		
	Boys	Girls	All	Boys	Girls	All
SAT - Attach	.11	.26 +	.19 +	.19	.55***	.35***
SAT – Self Rel	.16	-.04	.01	.16	.15	.18 +
SAT - Avoid	-.24	-.21	-.21 *	-.30 *	.36 *	-.33***
SAT – Sec att	.22	.17	.17	.28 +	.42**	.36***

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The global measure of social competence (ratings + observations) was also related to SAT-responses for both sexes, but in somewhat different ways as shown below.

A combined measure of social competence
[8-9-year-olds, n = 91 (46 + 45)]

	Social competence		
	Boys	Girls	All
SAT - Attach	.14	.42 **	.28 **
SAT – Self Rel	.25 +	-.06	.07
SAT - Avoid	-.37**	-.25 +	-.30 **
SAT – Sec att	.32 *	.24	.27 **

9-year-olds. In study 4, 9-year-old boys' SAT-responses were unrelated to maternal ratings of pro-social orientation as well as to ratings of social initiative. Among girls, however, attachment, and security of attachment on the SAT were related to maternal ratings of pro-social orientation, but not to ratings of social initiative.

Maternal ratings of pro social orientation and social initiative
[9-year-olds, n = 48 (26 + 22)]

	Pro social orientation			Social initiative		
	Boys	Girls	All	Boys	Girls	All
SAT - Attach	-.20	.42 *	.08	.21	.05	.17
SAT – Self Rel	.16	.17	.15	.24	.12	.20
SAT - Avoid	.13	-.35	-.12	-.08	-.00	-.05
SAT – Sec att	-.11	.38 +	.14	.23	.05	.17

9 to 10-year-olds. In study 2, 9 to 10-year-old boys' self-ratings of empathy were related to attachment and security of attachment. Among girls, no relationship was found between self-rated empathy and SAT-responses. For teacher-ratings, the situation was the reverse. No relationship was found between SAT-responses and teachers' ratings of empathy for boys. For girls, however, significant correlations were found between attachment, avoidance **(negative)** and security of attachment on the SAT and teacher rated empathy.

Self and teacher ratings of empathy [10-year-olds, n = 36 (18 + 18)]

	Self ratings			Teacher ratings		
	Boys	Girls	All	Boys	Girls	All
SAT - Attach	.51 *	.31	.46 **	-.06	.64 **	.19
SAT – Self-Rel	. 21	-.24	-.03	.09	30	.19
SAT - Avoid	-.29	-.24	-.29 +	.29	-.54 *	.01
SAT – Sec-att	.50 *	.11	.31 +	-.10	.62 **	.21

CONCLUSIONS

- Taken together these studies attest to the validity of the Separation Anxiety Test by demonstrating meaningful relations to measures of social functioning (child behavior during everyday reunions, observed and rated social competence and self rated empathy).
- Gender may be an important issue when studying relations between attachment and social functioning, at least among preschoolers and in middle childhood. Taken by themselves, the studies are much too small, and the differences not large enough, to justify strong statements, but taken together the pattern of correlations indicate that the relation between attachment and other aspects of children's functioning may differ for boys and girls.
- In the above studies the relation between attachment and other variables often went in opposite directions for boys and girls. This can cause the researcher to conclude that there is no relationship here, whereas in fact there are two, albeit different ones.

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